LANDS AND FORESTS
TECHNICAL NOTE

THE COYOTE BOUNTY IN NOVA SCOTIA 1982-1986

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The first eastern coyote (*Canis latrans* var) collected in Nova Scotia was in Guysborough County in 1977 (O'Brien 1983). Because of its threat to livestock a $50 bounty was initiated in November, 1982 for each coyote carcass brought to the Department of Lands and Forests. These carcasses provided an opportunity to determine the age structure, sex ratio, reproductive potential, and food habits of this new resident mammal.

This report summarizes the results of this work (except food habits). The carcass collection ran from November 1982 to June 1986 when the bounty was dropped in favour of a sheep compensation plan.

METHODS

Persons submitting coyote carcasses completed an affadavit as to where, when and how the coyote was killed. These were the basis for payment and data analysis.

Each carcass was tagged with a numbered metal tag, weighed and measured. A canine tooth was pulled for aging and female reproductive tracts were frozen for later examination. All information was sent to the Wildlife Division for final processing and analysis. Teeth from the 1982-83, 1983-84, and 1984-85 seasons were aged by cementum annuli. The teeth in the 1985-86 season were radiographed to determine relative ages. This method is less reliable but much less expensive.

RESULTS AND DISCUSSION

The recorded number of coyotes killed in the province has increased each year since 1977. A similar trend occurred in New Brunswick where no bounty was offered. Between November 1982 and June 1986 a total of 944 coyotes were bountied in Nova Scotia for a total expenditure of $47,200. The highest number of coyotes killed for bounty occurred in the seven eastern counties (Table 1).

During the period 1982-85 most coyotes taken were shot. During 1985-86, the snare became the single most popular method of taking coyotes. Snares and traps can be used only by licensed trappers during the fall season except in certain nuisance situations. Combining the trapped and snared coyote figures, Tables 4 to 5 show that for 1984-85 and 1985-86 trappers took a majority of animals. The percentage of trapper-taken coyotes has risen each year since 1983-84.

During the 1982-83 and 1983-84 seasons, the 1.5 year age class dominates with 51.7% and 58.9% of the coyotes aged (Table 7). This trend changes in 1984-85 and 1985-86 when the .5 year age class becomes dominant with 50.2% and 63.2% of the coyotes aged. Less than 20% of the bountied animals in any year were adults.

Moore (1981) made a similar observation in New Brunswick. Coyotes in established areas were mostly yearlings but in newly expanded areas, juveniles were predominant. Table 7 provides the age and sex information of coyote carcasses examined. During 1982-84 yearlings were the predominant age class. This may indicate the occurrence in the past of unusual conditions for breeding and survival (Dasmann 1981). Conditions would have been favourable in Nova Scotia for breeding and survival due to the recent invasion of the province and the fact that the carrying capacity of the habitat had not yet been realized. During 1984-86 the juvenile age class predominates which is typical of an expanding population (Dasmann 1981).

Coyote mating takes place between mid-February and early March. The pups are born 60-63 days later (Kennelly 1978). The average female coyote produces five to seven young, although as many as 19 have been recorded (Senecal 1977). Table 7 gives a breakdown of yearling and adult female reproductive history. In Nova Scotia yearlings had fewer young than adults (2.9 young versus 6.3 young/breeding females). The reproductive data for 1985-86 is incomplete as some samples were destroyed during a mechanical failure of the Division's freezer.

Bounties are generally regarded as an economically and biologically unsound technique for managing wildlife species. Nonetheless, the bounty did stimulate an interest in harvesting coyotes with the result that some coyote harvesters now have the skills to catch nuisance

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animals. It also allowed us the opportunity to better understand its biology.

As of June 1986 the bounty was eliminated in Nova Scotia. The Departments of Lands and Forests, and Agriculture and Marketing have set up a sheep compensation program to aid farmers who lose sheep to coyotes. Under the program Lands and Forests will pay $65 per lamb, $90 per ewe, and $200 per adult ram killed by a coyote – providing certain conditions are met. This program is designed to better compensate for losses due to coyotes.

The present approach to the coyote problem is to encourage trappers to harvest coyotes during the fall trapping season and to train specialists to deal with individual nuisance animals.

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Table 1. Coyote bounties 1982-83 to 1985-86.

	1982-83	1983-84	1984-85	1985-86
Annapolis	1	0	3	6
Digby	1	5	6	14
Kings	0	0	0	7
Lunenburg	2	0	4	5
Queens	0	0	0	2
Shelburne	0	2	2	13
Yarmouth	0	8	5	4
Western	2	17	20	51
Antigonish	5	17	18	35
Colchester	3	17	32	59
Cumberland	2	25	53	86
Guysborough	3	45	84	62
Halifax	9	18	40	61
Hants	5	4	11	22
Pictou	8	14	11	24
Eastern	35	140	249	349
Cape Breton	0	1	1	0
Inverness	3	3	1	1
Richmond	1	0	0	0
Victoria	4	2	6	6
Cape Breton Island	8	6	8	7
PROVINCE	45	163	277	407

Table 2. *Month and method of coyote kill, 1982-83.*

	Snared	Trapped	Shot	Car	Total
April					
May					
June					
July					
August					
September					
October					
November	0	2	3	0	5
December	4	2	10	0	16
January	5	4	7	0	16
February	1	1	3	0	5
March	0	1	1	1	3
Total	**10**	**10**	**24**	**1**	**45**

Table 3. *Month and method of coyote kill, 1983-84.*

	Snared	Trapped	Shot	Car	Total
April	1	0	0	0	1
May	0	0	2	0	2
June	0	0	0	0	0
July	0	0	0	0	0
August	1	0	1	1	3
September	0	0	1	5	6
October	0	2	9	3	14
November	0	8	26	1	35
December	3	4	24	3	34
January	6	18	10	1	35
February	9	9	8	3	29
March	0	0	3	1	4
Total	**20**	**41**	**84**	**18**	**163**

Table 4. *Month and method of coyote kill, 1984-85.*

	Snared	Trapped	Shot	Car	Total
April	0	0	1	2	3
May	1	0	0	1	2
June	0	0	1	1	2
July	0	0	1	4	5
August	0	0	1	7	8
September	2	0	3	5	10
October	0	1	30	3	34
November	1	31	25	1	58
December	16	26	10	2	54
January	24	15	13	2	54
February	12	5	11	53	33
March	4	0	4	6	14
Total	**60**	**78**	**100**	**39**	**277**

Table 5. *Month and method of coyote kill, 1985-86.*

	Snared	Trapped	Shot	Car	Total
April	0	0	2	3	5
May	1	0	2	1	4
June	0	0	1	1	2
July	0	0	0	3	3
August	0	0	11	5	16
September	0	0	5	13	18
October	0	0	33	10	43
November	1	62	34	5	102
December	34	17	15	4	70
January	67	13	7	3	90
February	23	19	3	4	49
March	1	0	1	3	5
Total	**127**	**111**	**114**	**65**	**407**

Table 6. *Coyote age ratios.*

	0.5 years				1.5 years			
Year	M	F	T	%	M	F	T	%
1982-83	13	11	24	41.4	11	19	30	51.7
1983-84	16	15	31	26.5	35	34	69	58.9
1984-85	56	64	120	50.2	41	30	71	29.7
1985-86	119	97	216	63.2	41	32	73	21.3

	2.5+ years				TOTAL		
Year	M	F	T	%	M	F	T
1982-83	2	2	4	6.9	26	32	58
1983-84	2	7	17	14.5	61	56	117
1984-85	30	18	48	20.1	127	112	239
1985-86	28	25	53	15.5	188	154	342

Table 7. *Coyote placental scars by age.*

1.5 years

	Females		% Female	Placental Scars	
Year	Total	With Scars	Pregnant	Total	Average
1982-83	19	2	10.5	11	5.5
1983-84	34	13	38.2	35	2.7
1984-85	30	4	13.3	16	4.0
1985-86	32	15	46.9	37	2.5

2.5± years old

	Females		% Female	Placental Scars	
Year	Total	With Scars	Pregnant	Total	Average
1982-83	**2**	**2**	**100.0**	**14**	**7.0**
1983-84	**7**	**5**	**71.4**	**38**	**7.6**
1984-85	**18**	**7**	**38.9**	**42**	**6.0**
1985-86	**25**	**9**	**36.0**	**52**	**5.8**